

From the INTERNATIONAL BUREAU

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 12 May 2000 (12.05.00)	
International application No. PCT/US99/20124	Applicant's or agent's file reference 7262/MH
International filing date (day/month/year) 01 September 1999 (01.09.99)	Priority date (day/month/year) 02 September 1998 (02.09.98)
Applicant CONNOR, Daniel, Stedman et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

16 March 2000 (16.03.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer F. Baechler Telephone No.: (41-22) 338.83.38
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REC'D 12 OCT 2000

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT



(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 7262/MH	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US99/20124	International filing date (day/month/year) 01/09/1999	Priority date (day/month/year) 02/09/1998
International Patent Classification (IPC) or national classification and IPC C07C7/13		
Applicant THE PROCTER & GAMBLE COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 16/03/2000	Date of completion of this report 10.10.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Pfannerer, F Telephone No. +49 89 2399 8322 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US99/20124

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

Description, pages:

1-83 as originally filed

Claims, No.:

1-24 as originally filed

Drawings, sheets:

1/18-18/18 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US99/20124

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-13,16-20
	No:	Claims	14,15,21-24
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-24
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	

2. Citations and explanations

see separate sheet

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US99/20124

(1) WO-A-97/38 956

To section V

1. With respect to the present claims 14,15 and 21 - 24 attention is drawn to the fact that a claim defining a product in terms of a process is to be construed as a claim **to the product as such**. Thus, the product of such a claim must fulfil the requirements of patentability. The claims mentioned above are considered to include products which already form part of the state of the art. Therefore, the subject-matter of said claims is not regarded as fulfilling the requirements of Article 33(2) PCT. (reference is e.g. made to (1))
2. As stated in the introduction of the present description the particular combination of processes relating to the adsorptive separation of a hydrocarbon feed, the dehydrogenation of saturated acyclic hydrocarbons into olefinic hydrocarbons and the conversion of the olefinic hydrocarbons by using well known OXO processes or the utilisation of the olefinic hydrocarbons in alkylation processes are already known.
Thus, it is unclear to what extent the presently claimed processes are associated with an inventive step. Therefore, the subject-matter of present claims 1-13 and 16-20 is not regarded as fulfilling the requirements of Article 33(3) PCT.

To section VI

Reference is made to WO-A-99/07 656 which is published between the claimed priority right and the filing date of the present Application.

To section VII

The subject-matter of present claims 18-20 relates to an alkylation process in contrast

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US99/20124

to the hydroformulation process of the other process claims. This gives rise to an objection under Rule 13 relating to the requirements of unity.

To section VIII

With respect to the formulation of the claims reference is made to the requirements of Article 6 and Rule 6.1 (a), 6.2 (b), 6.3 and 6.4 PCT.

The indication "simulated moving bed adsorptive separation means" or "device for simulating motion" is unclear.

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WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : C07C 7/13, 9/16, 5/333, 11/02, 29/16, 31/125, 2/66, 15/107, 303/06, 309/31, C11D 1/14, 1/22, 1/68, 1/722</p>	<p>A1</p>	<p>(11) International Publication Number: WO 00/12451 (43) International Publication Date: 9 March 2000 (09.03.00)</p>
<p>(21) International Application Number: PCT/US99/20124 (22) International Filing Date: 1 September 1999 (01.09.99) (30) Priority Data: 60/098,910 2 September 1998 (02.09.98) US (71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): CONNOR, Daniel, Stedman [US/US]; 9217 Sagemeadow Drive, Cincinnati, OH 45239 (US); SCHEIBEL, Jeffrey, John [US/US]; 6661 Miami Trails Drive, Loveland, OH 45140 (US); BURCKETT, ST. LAURENT, James, Charles, Theophile, Roger [GB/US]; 11477 Gideon Lane, Cincinnati, OH 45249 (US); GRIPE, Thomas, Anthony [US/US]; 599 Three Chimneys Lane, Loveland, OH 45140-7345 (US); KOTT, Kevin, Lee [US/US]; 2920 Bentbrook Drive, Cincinnati, OH 45251 (US); VINSON, Phillip, Kyle [US/US]; 5803 Windermere Lane, Fairfield, OH 45014 (US).</p>	<p>(74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US). (81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p>	

(54) Title: IMPROVED PROCESSES FOR MAKING SURFACTANTS VIA ADSORPTIVE SEPARATION AND PRODUCTS THEREOF

(57) Abstract

Processes for making particularly branched, especially monomethyl-branched or nongeminal dimethyl-branched surfactants used in cleaning products; preferred processes comprising particular combinations of two or more adsorptive separation steps and, more preferably, particular OXO and/or alkylation steps; products of such processes, including certain modified primary OXO alcohols and/or alkylbenzenes, modified primary OXO alcohol-derived alkoxylated alcohols, alkylsulfates and/or alkoxysulfates; alkylbenzenesulfonate surfactants, and consumer cleaning products, especially laundry detergents, containing them. Preferred processes herein more specifically use specific, unconventional sequences of sorptive separation steps to secure certain branched hydrocarbon fractions which are used in further process steps to make olefins useful in OXO processes or as alkylating agents for arenes or for other useful surfactant-making purposes. Surprisingly, such fractions can even be derived from effluents from current linear alkylbenzene manufacture.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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EE	Estonia	LR	Liberia	SG	Singapore		

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 7262/MH	FOR FURTHER ACTION <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. PCT/US 99/ 20124	International filing date (day/month/year) 01/09/1999	(Earliest) Priority Date (day/month/year) 02/09/1998
Applicant THE PROCTER & GAMBLE COMPANY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

- ☐ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/20124

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C7/13 C07C9/16 C07C5/333 C07C11/02 C07C29/16
 C07C31/125 C07C2/66 C07C15/107 C07C303/06 C07C309/31
 C11D1/14 C11D1/22 C11D1/68 C11D1/722

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 38956 A (PROCTER & GAMBLE) 23 October 1997 (1997-10-23) the whole document ---	1-24
A	WO 97 38957 A (PROCTER & GAMBLE) 23 October 1997 (1997-10-23) the whole document ---	1-24
A	EP 0 559 510 A (INSTITUT FRANÇAIS DU PETROL) 8 September 1993 (1993-09-08) cited in the application the whole document ---	1
A	US 2 985 589 A (D.A. BROUGHTON, ET AL.) 23 May 1961 (1961-05-23) cited in the application the whole document --- -/--	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier document but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

10 January 2000

Date of mailing of the international search report

19/01/2000

Name and mailing address of the ISA

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Authorized officer

English, R

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/20124

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 466 558 A (INSTITUT FRANÇAIS DU PETROL) 15 January 1992 (1992-01-15) the whole document ---	1, 18-20
A	US 3 427 342 A (B. BROOKS, ET AL.) 11 February 1969 (1969-02-11) the whole document ---	1
P, X	WO 99 07656 A (PROCTER & GAMBLE) 18 February 1999 (1999-02-18) the whole document -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/20124

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INTERNATIONAL SEARCH REPORT

International Application No

Information on patent family members

PCT/US 99/20124

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